14 Incorporating Gender in Research on Indigenous Environmental Knowledge in the Tunari National Park in the Bolivian Andes

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Introduction

Since pre-Columbian times, indigenous farmers of Quechua and Aymara origin have occupied the highlands surrounding the city of Cochabamba. Between the 15th Century, at the beginning of colonial times, and the middle of the 20th Century, landlords owned the land, while former peasant landowners were kept under serfdom. In the agrarian reform initiated in 1952, the government abolished serfdom and returned the land to farmers who were willing to form a syndicate, which was later on transformed, through gradual incorporation of indigenous organizational elements, into what is today perceived as a "community" (Rocha, 1999).

However, the peasants' autonomy over their territory was of short duration. In 1962 the central government enacted a law declaring part of the highlands surrounding the city of Cochabamba as the Tunari National Park (TNP). The main reason given was that the creation of a national park would lay the groundwork for extensive reforestation, aiming to prevent the repetition of the floods that occurred in 1959 and protect natural water sources for the benefit of the expanding city. Adding an element of "natural lungs" and some references to biodiversity, the government significantly extended the park area in 1991. These laws were elaborated in a typical top-down manner without any consultation of the local inhabitants. Currently the park area comprises approximately 350 indigenous communities, representing a total of some 100,000 inhabitants. In foreseeing the expropriation of uncultivated land, totally forbidding cattle-keeping and establishing state-based forestry projects in the whole area – which is combined with a strict prohibition of extraction of firewood, felling and pruning of trees – the legislation represents an almost lethal threat to the livelihoods of the peasant families affected by the park. Due to lack

of interest and financial resources, the TNP remained a "paper park" until, at the beginning of the 1990s, the Prefecture, which represents the central government's Ministry of Sustainable Development, started to carry out studies and to take initial steps to implement the park.

These attempts gave rise to a powerful and massive social movement of affected peasants and other poor people, who have illegally settled within the limits of the TNP. The consequence is a series of conflicts that even produced violent encounters between local communities and those in charge of managing the TNP, such as the Prefecture, the Municipality of the city of Cochabamba, the Ministry of Sustainable Development, and organisations for the protection of the environment and nature (Serrano, 2005).

In this context the Public University of Cochabamba, through the Agroecology Program (AGRUCO), decided together with the main stakeholders involved to engage in a transdisciplinary research project, which forms part of the National Centre of Competence in Research North-South (NCCR North-South). This led to the formulation of three PhD-level projects and two interrelated Partnership Actions for Mitigating the Syndromes of Global Change (PAMS) projects. Both the research and the PAMS projects aim to create a platform where the parties in conflict could meet in more "neutral" contexts in order to exchange ideas, needs, worries and doubts, as a first step in seeking common ground for negotiating the future of the TNP (Figure 1).

Fig. 1
Identification of important features of the "living landscape". Shown here are: Elvira Serrano, Sebastian Boillat, and some peasants from the Tirani community

Source:
AGRUCO, 2005

The first phase of the project was successfully finished with the organisation of the first joint stakeholder meeting held in February 2004. The different positions, perceptions of the stakeholders involved, discussions they had with the researchers, and common ground for seeking further alternatives for the TNP are documented with great detail in Delgado and Mariscal (2005).

The analysis of the initial findings of a research project addressing the relationship between ecosystem diversity and environmental knowledge in the indigenous community of Chorojo (Figure 2), which lies within the perimeter of the TNP, showed that "Andean" knowledge of the environment is closely related to a "gendered" perception of nature. According to the Andean perception of nature, plants, animals and humans are not the only living beings that can be differentiated by sex or gender; the same is also true for rocks, mountains, planets, lagoons, rivers, winds or clouds (Boillat, 2005).

Almost all interviews and joint field visits were carried out with males. Although women were present in the visits and workshops, their active participation was minimal. The lack of a more pro-active integration of women into the research process had an external reason: the researcher in charge was a Swiss male, for whom it was not easy to overcome the culturally defined barriers of interaction between indigenous women and a foreign male researcher (Figure 3).

Fig. 2
Regular visits from researchers to the families of Chorojo are fundamental to participatory research methodology

Source: AGRUCO, 2005

Fig. 3
Sebastian Boillat with research participants

Source:
AGRUCO, 2005

Discussion of this situation, concurrent with the enhancement of the gender group in the NCCR North-South in 2004, created awareness of the need to incorporate a gender perspective into the current research project. On the one hand this would make it possible to overcome possible biases in information coming mainly from male peasants, helping to make explicit to what degree environmental knowledge is shared between women and men. On the other hand it would also make it possible to learn more about how Andean people's specific perceptions of "nature" expressed in the notion of *Pachamama* (earth's mother) influence the definition of gender roles and relations. As a consequence, it was decided to organise a complementary study by a Bolivian female researcher who is in charge of systematising the environmental knowledge of women living in the participating communities.

The present paper presents the first results in the process that aims to incorporate gender dimensions into ongoing research. Consequently, the results reflect an initial stage, which nevertheless makes it apparent that including a gender perspective is more than just adding some additional element to the research project (Premchander and Müller, 2004). The first step was related to situating complementary research in the context of broader debates on gender, development and ethnicity in Bolivia. A second step consisted of the revision of rather abundant documentation resulting from more than 10 years of action research carried out with the members of the communities of Chorojo and the first results of the fieldwork of the NCCR North-South team, in order to differentiate environmental knowledge in terms of gender.

The third step explored the degree to which the currently observed definitions of gender and the relations between them are related to the specific "gendered" perception of "nature" and what this implies for the conceptual framework of the research.

14.1 The gender debate in Bolivia and the community of Chorojo

The present section does not aim to present a comprehensive account of the status and trends of current debates on gender in Bolivia. This has been done in great detail by other authors (e.g. special issue 5/2 of the *Journal of Latin American Anthropology*, 2000). Here we shall mention only those aspects considered relevant for incorporating the gender dimension into current research in one of the case studies represented by the community of Chorojo.

In general terms, the situation of women living within the TNP, as represented by the Chorojo, reflects the most common features of many other rural areas of the highlands and valleys of Bolivia: While some progress has been made in terms of incorporation of women into the broader society in terms of education, access to health services, more direct participation in the market economy and political decision-making, the specific gender differences are still considerable, as pointed out by the United Nations Development Program in its report on gender in Bolivia (2003).

Analysis of the reasons for this situation reflects a general and controversial debate in which different perspectives form the South encounter those that have arisen in the North. Ray and Korteweg (1999) labelled the debate as a dilemma involving particularist and universalist approaches to gender. In Bolivia this debate unfolds between two clearly opposing positions taken by intellectuals and professionals engaged in policy-making and development projects. On the one hand, there are groups, generally well supported by international public and private donors, who state that traditional societies are generally male-dominated and authoritarian, meaning that modernisation is the alternative that could lead to modern societies supposed to offer more democratic and equitable conditions for women. On the other hand, there is a growing number of intellectuals with less international support who emphasise aspects related to ethnicity – and the related cultural capital that constitutes the ontological foundations of the struggle in manifold social movements of indigenous people – as opposed to emphasising universalist positions on gender (Table 1).

Table 1

Comparison of "classical" and "Andean" approaches to gender

Source: Paulson, 2000

Classical gender analysis	Andean exploration of gender
Information, knowledge, and opinions are gathered through interviews with individuals, especially women. Profile of community studied is based on sexually segregated statistical data on individuals	Research focus is on community, rejecting individualism as a Western concept. "Andeans do not exist outside of the family and the community"; "women do not think, need, act outside of the couple" (*qhari-warmi or chachawarmi*)
The nuclear family is the unit of analysis for calculating wealth, property, labour, residence, relative status and position of women	Extensive kin and *compadrazgo* networks/dynamics and *ayllus* are studied as groups and in women's contexts of action and relations.
Institutional analysis of male/ female participation focuses on farmers' syndicates, producers' cooperatives, irrigation associations, and other formal corporate institutions.	Analyses male/female participation in rituals, work parties (*mink 'a*), exchange networks (*ayni*), and other non-Western, non-corporate forms of organisation and action.
Analyses division of labour by sex in separate domains: productive, reproductive, community organising (after Caroline Moser).	Emphasises flexible and complementary organisation of labour within an integrated system without segregated domains.
Compiles sexually-disaggregated data on land tenure, water rights, income, livestock ownership.	Explores personal and spiritual relationships between men and women and the land (*Pachamama*) water (*Q'ocha*), animals, and other natural forces and creatures
Methodological characteristics of classical gender analysis	**Methodological characteristics of Andean exploration**
Emphasis on "objective" quantitative data and replicable survey formats.	Emphasis on qualitative, in-depth exploration of unique visions and experiences.
More focused and specific definition of individual phenomena and discrete measurable indicators.	More integrated approach to holistic, flexible, relational phenomena.
Apply universal categories and indicators to get comparable data.	Generate unique, local characteristics, terms and concepts
Focus on modern institutionalised facets of life, such as formal education, hospital health service, literacy, and money earned	Focus on non-Western, non-institutionalised facets of life such as ritual and spiritual relationships and responsibilities.

Although the opposing positions summarised in Table 1 are a good starting point, we agree with many authors that the reality in indigenous communities lies somewhere in between these exclusive approaches (Healy, 2000). However, we think it is important to search for answers beyond a merely anthropocentric view. If not, the indigenous women and men living on the basis of other than anthropocentric worldviews would be once again pushed into a position of exclusion or intellectual subordination. This implies that the aspects of gender must be seen in a broader context. This means defining

a clear starting point for analysis represented by an actor-oriented and phenomenological perspective. We think that our first aim is to understand – rather than to qualify – how indigenous women and men organise their relationships, drawing on specific combinations of endogenous and exogenous knowledge and how this process is linked to wider social, political and economic structures and historic tendencies.

Another important feature also present in the gender discussions that we observed in the communities, as well as in general terms, is related to "complementarity". Taking into account that the principle of complementarity was, and still is, an important feature of social and ecological organisation of livelihoods throughout the Andes (Delgado, 2001), it is not surprising that this principle is also found in the definition of gender (Jimenez Sardón, 1995). Indeed, as pointed out by Zulawski (1990), for the case of Bolivia it can be stated that "despite the conflict and inequality that must have existed in relations between men and women even before the conquest, the tradition of gender complementarity still prevailed among native peoples in the seventeenth and eighteenth centuries. In fact, the economic partnership of men and women was always desirable, and in many cases became indispensable for negotiating the colonial system. Whether struggling through a year of forced labour in Potosi or running a pulperia in La Paz, families working together had the best chance of survival. The fact that in the Andean family the wife and other female relatives were important parts of the household economy may have, to some extent, mitigated woman's oppression" (ibid: 109).

This means that the observed "gender relations and the struggle against discrimination should not be analysed on the basis of the assumption of an ideologically liberated "I" and an ideologically blind "Other", but rather from the mutual exploration both of our critical capacities and our ideological limitations. Clearly, the solution is not the promotion of a single ideal model of gender relations. While seeking to elevate the status of subordinated groups and to broaden the possibilities open to them, we must also affirm the freedom of individuals to choose the types of relations most satisfactory to them, be these "progressive" or "traditional" "(Luykx, 2000:163).

Such an approach allows us to make explicit the initiatives and processes through which indigenous people shape and reshape their identities and the related gender relationships, recognising that indigenous people in Bolivia are "using fluid cultural identities to weave their way through different social scenarios" (Healy, 2000:3). Moreover, the formation and transforma-

tion of identities of indigenous men and women are also closely related to ecology, resource management, astronomy, climatology, etc. (San Martin, 1997; Rist, 2002; Paulson, 2003).

14.2 "Gendered" perception of nature in the community of Chorojo

Initial results of the research done on the environmental knowledge of the members of the community of Chorojo shows that "Andean" knowledge of the environment is of paramount importance for maintaining the diversity of ecosystems, which is a "natural" characteristic of the zone (Boillat, 2005; Mariscal and Rist, 1999). Chorojo is an ex-hacienda community located in the upper valley step of the Quillacollo Province of the Cochabamba Department (Fig. 4). Its territory covers an altitudinal range of 3200 to 4600 m. The community is composed of 80 Quechua families who share about 16 km^2. The livelihood systems are based on a complex, dynamic and highly diverse combination of activities related to agriculture, animal keeping, agroforestry, handicrafts, off-farm activities, and temporal migration to other socio-economic (urban) or ecological (rural) spaces (Serrano, 2003).

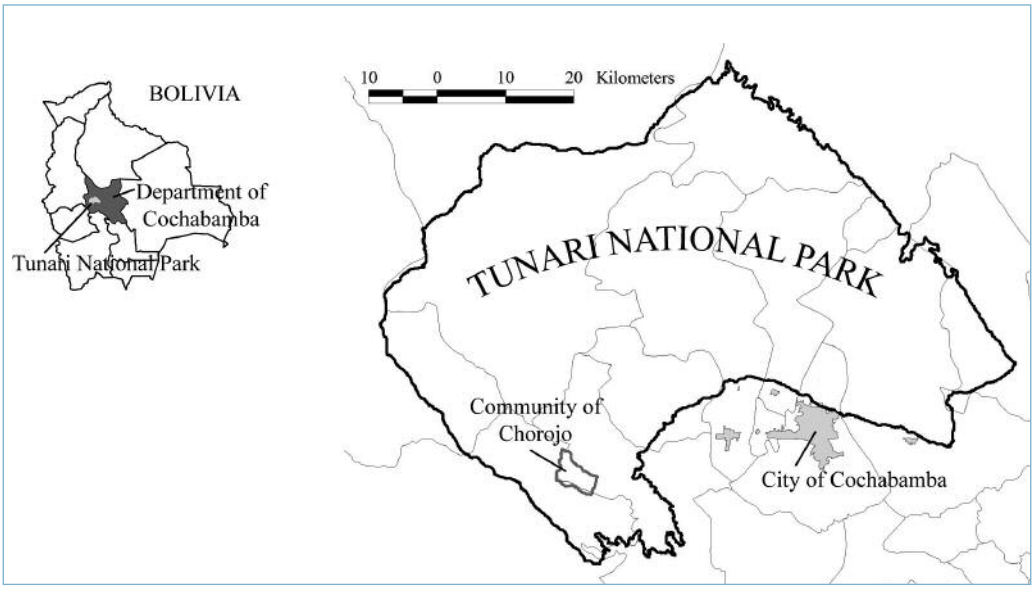

Fig. 4
Location of the Chorojo community in Bolivia and the Tunari National Park

Source:
AGRUCO, 2005

The topography of Chorojo constitutes a micro-watershed where fog and atmospheric humidity from the tropics accumulate, allowing the formation of a dense forest cover. In the higher part of the community, croplands and pasture lands are communal property, while the middle and lower portions are still owned by the community but managed as "family fields" where maize and vegetables are grown, using at least some temporary irrigation. Social organisation is based on a "syndicate", which by introducing elements of traditional governance was transformed into what people consider "our community".

In general terms, there are clear differences between women and men in regard to different activities related to food production, commercialisation, social organisation, etc. While women are generally responsible for running the household, education of small children, keeping animals, collecting firewood, cooking, food storage, handling and selection of seeds and handicrafts, men are in charge of crop production, temporal migration, representation of the family in community meetings, and collective work and education of adolescent boys (Table 2).

It is important to emphasise that the gender roles described are highly dynamic; one always observes some men herding animals or women selling products or running small businesses outside the community, or representing the family in meetings and deliberations of the community, especially when traditional authorities are appointed, important decisions have to taken, or the husband is not present.

The discussions about the park law clearly showed that it creates significant pressure on women, as it is mainly their activities that are indirectly blamed when livestock keeping (mainly sheep and goats) and fire wood collection are declared the most "prominent enemies of nature", making them responsible for overgrazing, and lack of rejuvenation of shrubs and trees. Furthermore, traditional livestock keeping is often seen by outsiders as a severe obstacle to the construction of terraces and other soil conservation measures (living fences, reforestation).

The categories used by the peasants of Chorojo to characterise their territory show how a physical landscape is turned into a cultural one. An example is the farmer's concept of *Puruma*, which is also called *Inca Puruma* and means "virgin land" that is uncultivated, especially in the higher regions of the community. These are basically grazing lands, but the concept can also

Table 2

Gender differentiation in key productive and reproductive activities in the community of Chullpa K'asa, near Chorojo

Source:
Cruz, 1999

Activity	Men	Women	Sons	Daughters
Productive activities				
Seed selection	X	XXXX	XX	XXXX
Seed conservation		XXXX		XX
Grazing	X	XXXX	X	XXXX
Soil conservation	XXXX		XXX	
Soil preparation	XXXX	X	XXX	
Soil manuring	XXXX	XXXX	XXX	XXX
Seed provisioning	XXXX	XXXX	X	XX
Sowing	XXXX	XXXX	XXXX	XXXX
Weed removal		XXXX	X	X
Harvesting	XXXX	XXXX	XXXX	XXXX
Irrigation	XXXX	X	XXX	
Reproductive activities				
Firewood gathering	XX	XXXX	XX	XX
Fetching water	X	XXXX	X	XXX
Food preparation	XX	XXXX		XXX
Caring for children		XXXX		XXX
Washing children		XXXX		XX
Washing clothes	XX	XXXX	XX	XXX
Sewing clothes		XXXX		XX
House cleaning	XX	XXXX	XX	XXXX
Food storage and processing		XXXX	X	X
Educating children	XXXX	XXXX		
Caring for the sick	XXXX	XXXX		
Building and repairing of houses	XXXX			
Construction of tools	XXXX			
Buying clothes	XXXX	XX		
Buying tools	XXXX			
Buying agricultural inputs	XXXX	XXXX		

refer to croplands, which were used by ancestors living there in pre-colonial times (at the time of Incas at the end of the 15th Century). Places with *Puruma* are believed to have a stronger presence of spiritual beings or ancestors, explaining that they don't want to be disturbed and therefore "they live

where there are no other people". Conversely, land that is under cultivation is called *Chaqra* (meaning 'breeding place') while it is producing, and *Sumpi* during the years it is recuperating its fertility during the fallow period. As the interviews below show, in a similar way the notions of *Mallku* (grandfather; male ancestors) and *T'alla* (grandmother; female ancestor) are associated with certain peaks in the closer and further spaces of the community, configuring a cultural landscape that represents a community of beings which embraces humans living in the present and the past. In the places called *Mallku* and *T'alla*, present and past inhabitants meet in order to join in communication with *Pachamama* (earth's mother), which is decisive for achieving satisfactory production and reproduction of the material, social and cultural foundations of the "extended community of living beings". This "gendering" of the physical landscape became further differentiated by associating certain parts of the territory with specific characteristics in regard to temperature, elevation, humidity etc. (Table 3).

Table 3

Gender concepts in Quechua peasants' characterisation of landscape in the community of Chorojo

Aspects	Male expression	Female expression
Sacred mountains - ancestors	*Mallku* (male ancestors)	*T'alla* (female ancestors)
Topographic elevation	*Pata* (high)	*Ura* (low)
Temperature	*Chiri* (cold)	*Qoñi* (warm)
Humidity	*Ch'aki* (dry)	*Joq'o* (humid)
Exposition of landscape	*Solano* (sunny side)	*Umbrano* (shady side)
Stars and planets	*Inti* (sun)	*Killa* (moon)

The above elements permit understanding of how and through which kind of rationale the landscape is turned into part of a wider "community of living beings", and how the notion of gender plays a fundamental role in this. In such a view, human gender categories become "naturalised" while the terrestrial environment and the universe become "humanised". Gender categories create meaningful linkages, which strongly influence the organisation of social, economic, ecological and cultural production and reproduction.

As the following testimonies exemplify, this kind of "cultivating" of the physical landscape is shared by women and men and relates to general as well as specific activities in the domains of the material, social and spiritual spheres of life.

"In life, everything has its aspect of male and female: the male mountains are the "Mallkus", which have sharp peaks, such as the "Illampu" mountain, the "Tata Sabaya", "Cora Cora"; the female mountains are flat and somewhat elongated, these are the "T´allas", such as, for example, the "Thunupa", which is a volcano; other mountains possess the "Chacha-Warmi" [Man-Woman], this means that both [poles] are located there: male and female together, and these mountains are the most respected. For example, the Tunari is "Chacha-Warmi", there is the Mallku, and next to it is its T'alla. On these mountains ritual marriage ceremonies are carried out, and they are the most respected mountains. In the Illimani, for example, there are three female mountains and three male mountains"(Prudencio Mejía ,male, 2003).

"In Chorojo, every place possesses a name. There are female places that do not like women and other places that do not like men; if boy children are born in places that do not like them, they die, the same happens in a place where there is no cow Illa [small representations of stone of the spirits, helping in animal raising]; the herds do not reproduce. Pachamama knows what must be raised in each place" (Anacleta Romero, female, 2003).

"This is true: it is said there is man and woman, also animals always walk together, and also the mountains. The male mountain is the highest one, and the lower are female, they are like us. Also highlands are male and lowlands are female, so it is" (Andrea Mairana, female, 2005).

"Male and female lands do exist here. Don't you see? These warm lands [points towards the lower part of the community] are female lands, that's how we call them; and cold lands are male lands" (Encarno Mairana, male, 2005).

The Chorojo River divides the territory of the community into two hillsides. The sunny hillsides with southern exposure (*solano*) are considered "male territory" because they are drier and possess scarce vegetation, while the shady hillsides with northern exposure (*umbrano*) are considered "female territory", yet are more humid and have more dense vegetation.

A series of interviews addressing specific moments and activities in the yearly crop cycle shows further details of how gender categories play a fundamental role in the organisation of life and production, according to the Quechua perception of the human-nature relationship. In what follows, further evidence for sustaining such an idea is presented.

Soil preparation after fallow period

In this activity men open the soil with the plough, which is pulled by a pair of bulls; this work requires much physical force. The woman meanwhile turns over the blocks of soil left behind in the plough's furrow, and children also participate by gathering pebbles, depending on their age.

"The entire family goes to prepare the soil. The men hold the plough and the women are behind, turning over the Kurpas (earth clods). It is rare to see women ploughing, but if there is need to do so, it is done, but then it is slower. We [men] do it faster and drive the plough in a straight line. The preparation is not work for a woman; that is the reason why they seldom do it; one needs to be strong to drive the plough, and when women do the preparation, they get sick because the Pachamama makes them sick. It is dangerous for women to make too much effort. It is said that their womb moves. But when women are widows or single mothers and they have to do the preparation of the land, they have to make a ritual (ch'alla) and then they do not get sick. The Pachamama herself helps her in this case" (Francisco Mondragón, male, 2003).

Sowing, planting and the "Ispalla"

Sowing begins with a ritual in which the whole family makes a petition asking *Pachamama's* permission for initiating the crop cycle. In order to assure "healthy" production, men open the furrows and women sow the seeds and put the manure. Women call themselves *junt'u ampara* (hot-handed), meaning that they hold the force of reproduction and regeneration. That is why all *Ispalla'*, the spiritual beings that allow the seeds to regenerate, are handled by women and will stay with the family for many years. In contrast, males are supposed to have "cold hands" meaning that "they do not know well enough how much earth the plant needs". If a man does it, he hurries, while women have much more patience. The *picchadoras* (sweepers) are those that cover the furrow with earth; these are generally children (regardless of their sex) (Figure 4).

After the plants develop for half the period of their crop cycle, the important festivity of Carnival arrives:

"During the carnival, we propitiate the Ispallas by the ch'alla ritual; we make a table for the Ispallas, we embellish them with coloured paper lace, confetti, flowers, alcohol, and we must give thanks to the Ispallas because they provide food for the house, and ask for their forgiveness if we have not taken

Fig. 5
While men open the furrows women sow the potato seeds

Source:
AGRUCO, 2005

good care of them; because if we mistreat them, they leave us. Then, hunger arrives at our house; that is why we have to propitiate well, especially the women, because we are always united with the Ispallas. At the time we sow, we move and place the seed in the earth, we are also Ispallas" (Nieves Ramos, female, 2003).

Earthing up (potatoes)

The cultural tasks vary according to the crop. Ideally men and women organise this task together: men loosen the earth, and women add soil to the plant.

"My mother usually tells me that in the time of earthing up plants need soil; they are like women about to give birth, and when we do not give them soil, the potato usually cries out saying 'what do you want me to give, for sheltering my wawas [babies]? They feel cold!' The plots that are not weeded do not produce. The tender mother 'Candelaria' gets angry when the plot is not weeded by the time of her festivity, she nags us saying 'where are the diapers, what do you think you will use to raise your children?'. The plots complain sobbing to the mother [earth], and she punishes negligent families, does not make them produce well. In the community, when a plot is not weeded or earthed up, it means that the family is lazy or not doing well" (Encarno Mairana, male, 2003).

Fig. 6
Peasants threshing wheat

Source:
AGRUCO, 2005

Seed selection

Before proceeding to the selection of the potatoes, men carry the still unsorted production from the *phynas* (traditional silos, mainly made within or nearby the plot) to the place where seed selection will take place. Women mainly make the selection of seeds. They have to choose an auspicious day when the potatoes are separated according to different uses (for food, for dehydration to make *chuño*, seeds) and to pick out wormy tubers or very small potatoes (*tuna papas*).

"For seeds, we have to choose the healthiest potatoes; we manage and care for the seeds. During the ch'alla ritual, women are called Ispallawalla [female warriors of the spirits of the seedlings], because we gather the seeds, while seeds escape men, because they walk whistling and make them escape" (Calixta Mejía, female, 2003).

The harvest

The harvest is a festive moment in which all members of the family, including the partners of the extended networks of reciprocity and kinship, aim to be present.

"For us, digging the potato is a blessing from the Pachamama; it is a party, and to harvest, one must first propitiate, give the Pachamama her food, just

as she gives us her food in our crops; we men take out the plants with pikes, and the women gather the harvest, the children pick the small potatoes and take care of the chickens which we sometimes take with us to eat the worms; sometimes we also take the pigs or the sheep, because all of us go to the harvest. We call our brothers, uncles, and relatives to help us. We also give them part of our harvest, because they helped; even if the potato is in our plot, it belongs to the Pachamama, and we must give freely" (Prudencio Mejía, male, 2003).

"There is a time for everything. For the harvest, I look and tell my husband to prepare everything we need. We wait for a good day and then we go to tell our relatives to help us; if the harvest is good, they take a lot of potatoes, if not, then they take what can be given. When we carry out a good ritual, production does not fail, but if we are neglectful, Pachamama will also neglect us" (Clotilde Mondragón, female, 2003).

The planets

A gender dimension is also present in the wider solar system: The people of Chorojo refer to the sun as *inti* which is "male" and its complement *killa*, the moon, which is female. Both have to join in a specific moment in order to contribute to the nurturing of life on earth:

"The time to sow is when the sun is big; it is born after winter and by September the sun is ripe. The first rain tells us when we should sow, but to sow you must also look at the moon. The moon is like the woman: she is not fertile all of the time. When we menstruate we cannot raise or hold seeds. The same happens with the moon, during wañu killa (new moon) we are not allowed to sow; we cannot sow during pura killa (full moon) either. Further, we cannot wash clothes because they turn to rags" (Juana Vargas, female, 2003).

14.3 Discussion

The above testimonies allow us to understand that men as well as women share the rationale and the corresponding categories for characterising "human" and "non-human" components of the world according to the belief that "everything lives" and is thus interrelated at one major level of interaction and interdependence. Human-related gender categories make it possible to influence concrete day-to-day activities and relate them to the terrestrial environment and the solar system, which are also "gendered". There-

fore it is common in the community of Chorojo to hear the saying in Quechua *Tukuy ima Qhariwarmi*, which means "everything is man and woman/male and female". This saying constitutes part of a basic pattern of interpretation, which is used in almost any discursive context and is even valid in other parts of the Andes (Harris, 1985).

These testimonies are evidence for stating that "female" and "male" gender categories are not isolated, pre-existing qualities of life per se. The narrative about the *Mallkus* and *T'allas* points to a hierarchy of which they are a part. At the top of this hierarchy is the union of both principles represented by the *Chacha-Warmi*, Tunari Mountain. As can also be seen in all the other testimonies, gender always relates to physical, social or symbolic differences, which form part of a type of polarity that can involve cooperating, contradicting, destroying, and struggling – one against the other. The underlying rationale seems to be related to the idea that the differences expressed as "gendered qualities" of all "being-things" that compose the world have to come together in order to produce and reproduce life in all its aspects. As long as the differences give place to a dynamic interplay, the polarity (including gender differences) rather than being a problem, is seen as a primordial condition of maintaining life and livelihoods based on complementarity, which is made possible only through the existence of differences.

Pointing to these notions of gender by no means implies "romanticising" the Andean worldview and its implications for the definition of gender roles and relations. From their own perspective, the people of Chorojo have often experienced great suffering from not being able to manage the manifold and complex interrelationships between male and female qualities of humans and the other "natural beings" related to them. Conflicts between families, communities, generations, men and women, or the occurrence of "natural" disasters such as droughts, pests, or accidents are part of the experience of the people of Chorojo as well. The degree to which the general principle of *Chacha-Warmi* produces "blessings" or "punishments" of *Pachamama* is by no means harmonious as such, or pre-defined. In the case of agriculture, this is expressed in the metaphor that women are like "warriors of the spirit of the seeds" (*Ispallawalla*), which have to struggle in order to permit life to embody itself, e.g. in the form of potatoes.

In such a view, complementarity becomes a special feature of gender relationships within and between humans and "non-human" beings. It seems that the people of Chorojo share a notion of gender relationship, which

instead of aiming at the elimination of differences as such aims instead to create adequate conditions for allowing complementarity between the different qualities of life to emerge. Although the symbolic order of the world seems to be based on such ideas, this does not imply that humans have to follow such an ideal-typical understanding of gender relationships in a mechanical way. When the conditions are not given, one can deviate from the "normal" gender roles for humans and even get help doing this from *Pachamama*, as made explicit in the testimony of Francisco Mondragón.

This kind of clearly defined symbolic order of the whole world in terms of gender qualities and a rather pragmatic management of day-to-day life is also confirmed by the analysis of the division of responsibilities into key activities of production and reproduction in the domestic units in a community nearby (Table 2). The main criteria for deciding who carries out which kinds of activities are based on the simultaneous consideration of the symbolic order of the "gendered" world and the current possibilities one has for acting in accordance with or against it. The main point in this regard relates to organising the complementarities of different gender qualities in such a way that they contribute as much as possible to fulfilling the needs, wishes and aspirations of the families living in the community of Chorojo. The focus on complementarity in regard to human gender roles thus forms part of a rationale of the organisation of the whole rest of the world. On the one hand this means that the whole world becomes "humanised", and on the other hand it implies that the definition of human gender roles and relationships is becoming "naturalised". The emphasis on complementarity, which tends to draw attention to a shared horizon of meaning, implies greater emphasis on the "other" pole or partner than on one's own point of view.

This might be an explanation for the observation that women, in private conversations as well as in public deliberations, e.g. in community meetings, strongly protest when men do not fully contribute to their families with the resources that are at their hands. It was frequently observed that women blamed their husbands in a community meeting or a workshop because they were misusing the money they earned from temporal migration or the selling of products for "their own pleasure" instead of taking account of the needs of the whole family and community. This shows that women can also use the principle of complementarity as a cultural and ethical resource, allowing them to resist the internal tendency of domination by men. Interestingly, such a strategy points away from affected individuals (women) and draws attention to the lack of collective response of the "other" (man) in fulfilling

his specific – and indeed gender-dependent – role in achieving the wellbeing of the whole family and community.

Such a view seems to be consistent with the observations made by other authors, highlighting the fact that present as well as historical strategies and movements among indigenous women, rather than making their own (individual) suffering the centre of attention, have emphasised – and continue to emphasise – the need for their women-specific contributions in the main struggles related to the recovery of the right for "land and dignity" based on self-determination and autonomy (Taller de Historia Oral Andina (THOA), 1986; Stephenson, 1999:203 ff). From such a perspective, it becomes possible to imagine that struggles to maintain and broaden the spaces and conditions for self-determination – in which men as well as women are actively engaged, also in Chorojo – are relevant to a more adequate understanding of their own view of the future of gender relations. If land and dignity were more respected, the conditions for conciliation and complementarity of gender differences would also improve. Consequently, past and present struggles do not exclude changes in gender relationships. But instead of focusing on the individual level, indigenous women are aiming to change currently felt gender inequities as part of a broader collective project that envisages a structural transformation of the societal macrostructure, based on their own cultural foundations. As a consequence, the results available provide evidence for maintaining that, when dealing with gender aspects in the context of indigenous communities, it is wise to go beyond an analysis that starts from the primacy of egocentric and individualistic notions of gender and identity. This means taking into account debates which suggest that gender must consider an eminent intercultural dimension. Accordingly, it must be recognised that the interface of Andean and scientific or expert knowledge represents different ontological, practical and epistemological stances, and that a meaningful dialogue must be able to integrate these dimensions (Rist et al., 2004).

Moreover, it seems to be an imperative that, when aiming to understand gender aspects in the community of Chorojo, one must take into account the close relationship that exists between the definition of gender roles and environmental knowledge. This implies that changes in gender definitions and relationships also have consequences in terms of "practical" knowledge, which is the basis for the production and reproduction of the ecological foundations on which families and communities build and re-build their livelihood strategies. Such an "ecological dimension" is clearly underrepresented in the gender debate and should be systematically enhanced.

Putting these first findings back into the context of the overall research project that aims to understand the backdrops of the conflicts around the TNP makes it possible to formulate the following hypothesis: Incorporating an actor-oriented gender perspective into the current research project allows us to disclose an important ontological element that underlies the "practical knowledge" of the indigenous communities involved. It relates to the ways by which humans, the terrestrial environment, and the wider space of stars and planets interrelate, according to a culturally shaped rationale. Against this background, it becomes clear that other views, e.g. those represented by ecologists, anthropologists, or experts in nature protection, contradict fundamental aspects represented by an Andean ontology and epistemology. In such a perspective the conflicts related to the TNP must be understood as the result of the encounter of different "epistemic communities". Haas (1992) defines the latter as a specific group of people that share a faith in a common set of cause-effect relations and beliefs, as well as common values on which principles will be applied to manage these relations and beliefs.

The challenge to enhance the co-management of the TNP, and to mitigate related conflicts, means promoting an intercultural dialogue that can address and constructively tackle the different perceptions of the society-nature relation represented by the different epistemic communities. Initial findings allow us to conclude that discussions about the future of the TNP – due to the close relationship between gender notions and environmental knowledge in the indigenous communities – must also include an intercultural exchange of Andean and non-Andean (Western?) epistemic communities dealing with different notions of gender.

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